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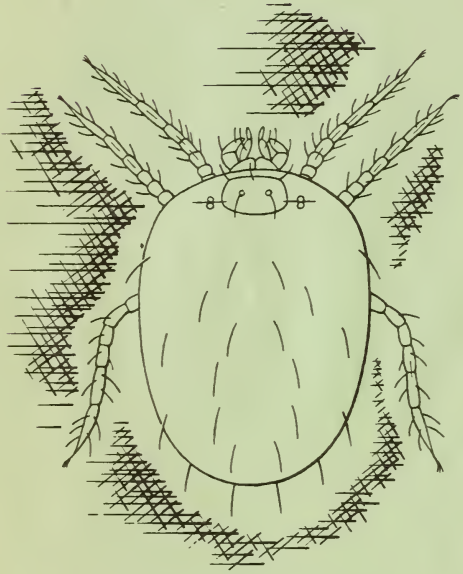
LEAFLET No. 302

Chigger Control



Bureau of Entomology
and Plant Quarantine
Agricultural Research
Administration
U.S. DEPARTMENT OF AGRICULTURE

April 1951

GPO—O—EPQ 433

Prepared by the
Division of
Insects Affecting Man and Animals

Ag84L
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U.S. Department of Agriculture

The following statement should be included in Leaflet 302, Chigger Control:

The experimental work on which the recommendations in this leaflet are based was conducted for the most part with funds transferred from the Department of Defense to the Bureau of Entomology and Plant Quarantine.

CHIGGERS, or red bugs, are among the most annoying pests of man found in this country. They are the larvae of very small mites. Several kinds of chiggers are found in the United States. They are most numerous east of the Rockies and may occur in annoying numbers in Iowa, Ohio, and Pennsylvania southward.

Contrary to popular belief, chiggers do not burrow into the skin, but attach like ticks, usually in skin depressions at the base of hair. Persons may become heavily infested without realizing it until itching begins several hours later. The poison secreted by the chigger causes severe irritation, which may continue for some time, and a secondary infection frequently follows.

Chiggers are most often found in low, damp places well covered with vegetation, such as margins of lakes or streams, shaded woods, high grass or weeds, fruit orchards, and berry patches. They are frequently severe pests, however, in relatively dry areas, such as on lawns, golf courses, and in parks. Chiggers may be of great importance to the Armed Forces when they are abundant around camp sites, drill grounds, firing ranges, or maneuver areas.

Insecticides can be applied to obtain relief from chigger annoyance in limited areas such as lawns, recreation areas, and selected portions of military posts. When chiggers occur over

extensive areas where insecticide applications are not practical, individuals exposed to attack may protect themselves with skin or clothing treatments as described in E-698 (revised), Use of Insect Repellents and Toxicants, issued by the Bureau of Entomology and Plant Quarantine in June 1949.

How to Locate Chiggers

Chiggers are so small that they are not easily seen. Since their bites may not be felt for several hours, it is sometimes difficult to know the exact places where they were picked up.

To locate an infested area, place a piece of black cardboard edgewise on the ground where you suspect the presence of chiggers and carefully observe the cardboard for a few minutes. If you see small yellowish or pinkish mites moving rapidly over the cardboard and accumulating on the upper edge, you have no doubt located a chigger-infested place. You may also detect them on your shoes if you are wearing black polished ones. Make checks in several places where you suspect chiggers occur. Decaying logs or branches are often heavily infested.

Spray or Dust Infested Grounds

Sulfur dust applied to infested grounds has been used for some time to control chiggers. In recent years,

however, a number of the newer insecticides, including chlordane, lindane, and toxaphene, have been found to be more effective. They may be obtained commercially as dusts, wettable powders, and emulsifiable concentrates. The last two must be mixed with water and applied as sprays.

Emulsion sprays will usually give the best results. A chlordane or toxaphene emulsion applied at 2 pounds or a lindane emulsion at 1/4 pound of the toxicant per acre will provide a high degree of control for 1 to 2 months. Wettable-powder sprays at the same dosages will give protection for 2 to 6 weeks, and dusts for 1 to 4 weeks. At 1 pound per acre toxaphene or chlordane applied as an emulsion spray is effective for 1 to 2 weeks, but the other formulations may not be effective at this dosage.

How to Apply Sprays

Apply these sprays at the rate of 20 to 25 gallons per acre, or about 1 gallon to 1,800 square feet. Cylindrical or knapsack-type hand sprayers may be used over small areas, but power equipment will be most satisfactory for large acreages.

Treat ground litter, soil, and the lower parts of plants with this spray.

The commercial wettable powders and emulsifiable concentrates contain various percentages of the insecticides. The concentrations likely to be available and the amounts required to make

the finished sprays suggested for use are given below.

	Quantity to make— 100 gal.	5 gal.
Chlordane and toxaphene:		
Wettable powder	Pounds	Pounds
25%	32	1.6
42%	20	1.0
Emulsifiable concentrate	Gallons	Pint
40%	2.5	1.0
50%	2.0	0.8
65%	1.5	.6
Lindane:		
Wettable powder	Pounds	Ounces
25%	4	3.2
Emulsifiable concentrate	Quarts	Pint
20%	2.5	0.25
25%	2.0	.2

How to Apply Dusts

Dusts can be applied with any equipment suitable for dusting plants. A rotary hand duster is excellent for small areas. Power dusting equipment will be more practical for treating larger areas, such as recreational grounds and golf courses.

Apply dusts containing 5 percent of chlordane or toxaphene at the rate of 40 pounds per acre, or about 1 pound per 1,000 square feet, and dusts containing 1 percent of lindane at 25 pounds

per acre, or 1 pound to about 1,800 square feet.

PRECAUTIONS

Handle all these insecticides with care and avoid unnecessary exposure to them. If you spill the concentrated material on the skin, wash it immediately.

Do not apply insecticides where they will contaminate fruit or vegetables or where livestock will graze within 2 weeks after the treatment. Do not apply toxaphene along lake margins, fish ponds, or streams, and in applying lindane or chlordane take care that the spray does not fall directly on the water.

Keep children and pets out of the treated area until the spray dries.

If you have any questions regarding the mixing and application of these insecticides, write to the Bureau of Entomology and Plant Quarantine, Washington, D. C., or consult your county agent or entomologists in your State extension service, experiment station, or college.

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